

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Appln. No. 08/997,368

Applicant has amended the claim to define that blocks are formed in both side zones of the tread, that is the zone TS as well as blocks formed in the central zone, TC. Consequently, the claim does require that there are three sections of blocks formed in the tread of the tire.

The Applicant also respectfully points out that claim 1 defines five specific criteria which are all required to achieve the performance of the tire defined by this claim. They are the result of the careful matching of tire performances and cannot be dissected or considered individually for purposes of determining the scope and content of this invention. An important aspect of this invention is that among those five criteria there is a relationship between the grooves which define the pattern. These slant grooves comprise steeply slant grooves which extend at a relatively small inclination angle with respect to the circumferential direction of the tire, that is grooves 1 and gently slanted grooves 2. The relationship is such that the steeply slant grooves are opened to the circumferential center groove in the central zone of the tread, that groove being illustrated by numeral 4 while the gently slant grooves open at the tread end. The tread end is denoted by the numerals TE. Additionally, given the definition of the block pattern of the tire, there are more gently slanted grooves, that is at least 2 X times the number of steeply slant grooves.

This combination of gently and steeply slant grooves provides a specific advantage over the prior art. Reference is made to page 4, line 26 - through page 5, line 16 of the specification. As a result of the definition of this groove shape, drainage action on the tread pattern is carried out in a smooth manner from the tread pattern center toward the tread end. This occurs by opening the steeply slant grooves to the circumferential center groove in the central zone of the tread to provide excellent drainage properties when running on wet road surfaces. As the Applicant points out, if the steeply slant groove does not open to the circumferential center

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groove then the motivation to include the fifth feature of claim 1 is lost. That feature is the requirement that the blocks formed in the central zone and defined by the circumferential center groove and the steeply slant grooves are chamfered. The chamfering occurs from a tapered top end over a range of 10-30 mm in a longitudinal direction of the block. A longitudinal direction would be understood as the long direction. The result is to achieve a gradual shallowing of the depth of the surface of the block from the tapered top end in a longitudinal direction. The effect of this addition is to allow the branching of the water flow to be carried out in a smooth manner or to prevent the occurrence of air bubbles due to turbulence which is created. There is simply no suggestion or teaching in the prior art which would interlink the five criteria set forth in claim 1 to each other, for example a requirement that the steeply slant grooves open to the circumferential center groove together with the chamfering of the blocks defined in the central area.

In that regard, the Examiner's reliance on EP '332 as modified by EP '718 is respectfully traversed. The Examiner relies on this primary reference as disclosing a tread which can be either directional or non-directional and comprising a combination of slant grooves, that is a steeply slant groove and a gently slant groove. The Examiner contends that the gently slant groove opens to the tread end, apparently relying on grooves 9. The steeply slant grooves are defined as grooves 8 opening to the circumferential groove 11. The Examiner is correct that the EP '332 does not disclose chamfering each block defined by the center groove and the steeply slant grooves. These would be blocks 7. What the reference does disclose is an increase in number of the blocks 7 to provide a gradual increase in the longitudinal stiffness from the side edge 1a to the center line X-X of the tire. The Examiner contends that it would have been obvious to modify those blocks in view of the teaching of EP '718. However, the Examiner has

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overlooked a critical difference which makes the EP '718 reference substantially not combinable with the EP '332. First, the secondary reference employs a unitary groove pattern in which a single groove changes direction from being steeply slanted to more gradually slanted as it approaches the tread end. Thus, it is a single groove which changes its orientation as opposed to a plurality of steeply slanted grooves on one end and a plurality of gradually slanted grooves on the other which are larger in number than the steeply slanted grooves. These are defined in claim 1 as distinctly different grooves. Moreover, in the '718 reference there is no distinct and discernable circumferentially extending groove. Rather, the steeply slanted grooves all terminate on the center line CC to define in essence a continuum of the steeply slanted grooves merging into each other. Simply put, the tread pattern of the EP '718 reference is noticeably and distinctly different from that of the EP '332 reference. It is a unidirectional pattern in which the blocks in the tread central zone are defined exclusively by steeply slant grooves. Even if the EP '332 reference was converted into a directional pattern, it would still require the presence of the circumferentially extending groove 12 together with a plurality of circumferentially extending circumferential ribs 11. The fundamental difference then in the EP '332 reference is that the steeply slant portions which the Examiner relies upon do not open onto the circumferential groove 12 but rather into a small longitudinal groove 2. That groove is displaced in the center line of the tire.

Consequently, the Examiner's holding of combinability of those two references is respectfully traversed. The EP '332 reference does not in any way define a block formed by the circumferential center groove 12. Even if the grooves 2 are considered by the Examiner to be circumferentially extending center grooves, Applicant respectfully contends that one of working skill would clearly recognize that those grooves are not defined for purposes of improving

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drainage or indeed to facilitate the removal of water from that tread pattern. Rather, in the EP 332 reference water which is entrained is directed laterally out the sides that is, through the continuous transverse grooves 13. Water in the center portion of the tire which is contained in the center line groove is effectively restrained from any lateral movement by the two circumferentially extending ribs 11. Consequently there would be no motivation whatsoever to provide any tapering of the blocks 7 for the purpose set forth in the EP '718 reference since the water drainage property is not in anyway reflected or modified by the characteristics of the tread pattern in that portion of the tire. Rather, the EP '332 reference denotes a gradual increase in stiffness of the blocks for purposes of noise reduction. It is therefore respectfully contended that no *prima facie* obviousness exists here. The fundamental combination employed by the Examiner does not suggest any reasonable modification for a purpose defined by either of the two references.

The remaining three references cited by the Examiner are no more pertinent. Such are cited by the Examiner for purposes of providing additional circumferential grooves as in the case of JP '025. The Examiner's reliance on EP '685 and JP '215 is not entirely clear since there is no detailed analysis of those references in the Examiner's Statement of Rejection. Nevertheless, they have been considered and are deemed to be clearly less relevant. The Examiner should note for example that EP '685 provides a rib in the circumferential center portion of the tire.

The Examiner's holding with respect to some of the dependent claims is also respectfully traversed. The Examiner should note the requirements in particular of claims 4, 8, and 9, in addition to the allowable subject matter of claim 10.

It is therefore respectfully contended that based on reexamination and reconsideration of the totality of the references all of the claims here should be allowed. Should the Examiner have

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any questions, he is requested to contact the undersigned attorney of record at the local exchange listed below. Applicant hereby petitions for any extension of time which may be required to maintain the pendency of this case, and any required fee, except for the Issue Fee, for such extension is to be charged to Deposit Account No. 19-4880.

Respectfully submitted,

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Date: April 27, 1999